

## Abstract

A single crystal of a silicate of a rare earth element herein provided is characterized in that it has a Ce concentration of not less than 0.6 mole% and not more than 5 mole% and that it has a light transmittance, as determined at a wavelength of 450 nm, of not less than 75%. The single crystal permits the solution of the problems associated with the conventional techniques or the problems concerning the coloration of the resulting single crystal and the reduction of the light transmittance thereof, which are disadvantages observed when the Ce concentration of the single crystal is increased to reduce the fluorescence-attenuation time. The single crystal thus permits the high-speed diagnosis of PET devices.